STUDIES IN THE TREATMENT OF MALARIA

XIX. INTRAVENOUS INJECTIONS OF DISODO-LUARGOL IN SIMPLE TERTIAN MALARIA

BY

LIEUT.-COL. J. W. W. STEPHENS, R.A.M.C.

W. YORKE

B. BLACKLOCK

J. W. S. MACFIE

C. FORSTER COOPER

AND

H. F. CARTER

From the Liverpool School of Tropical Medicine

Undertaken at the request of the War Office

(*Received for publication* 1 *July*, 1918)

This drug, which is a neutral salt of silver, arsenic and antimony, was injected intravenously in thirteen cases. Two injections were given in four cases (1158-1161), 0·1 gramme on the first day and 0·15 gramme on the fifth day of treatment; and a single injection of 0·2 gramme in nine cases (1162-1170). All the cases were adult males infected either in Macedonia or in Egypt. In every instance a diagnosis of simple tertian malaria was made microscopically, and in all cases parasites were present in the blood on the day treatment was commenced. Blood examinations were made daily.

The results are summarised in Tables II and IV, which also contain the following additional information:—Place of infection and interval in months between present treatment and (*a*) first admission to a hospital with malaria, (*b*) leaving infected area, (*c*) arrival in England.

TABLE I.

Parasitic records after two small intravenous injections (0·1 gm. and 0·15 gm.) of Disodo-luargol in simple tertian malaria.

Number of case	Day of first injection 0·1 gm.	1st day after	2nd day after	3rd day after	Day of second injection 0·15 gm.	1st day after	2nd day after	3rd day after	4th day after	5th day after	6th day after	7th day after
1158	T.G.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	G.
1159	T.G.	T.	Neg.	Neg.	Neg.	Neg.	T.	Neg.	T.G.	T.G.	T.	T.
1160	T.G.	T.	T.	T.G.	T.G.	T.	G.	Neg.	Neg.	T.	T.G.	T.G.
1161	T.G.	G.	G.	T.G.	Neg.	T.	Neg.	Neg.	Neg.	G.	T.G.	G.

TABLE II.

Summary of TABLE I.

* S. = Salonika.

Number of case	*Place of infection	Interval (in months) between first admission to a hospital with malaria and present treatment	Interval (in months) between leaving infected area and present treatment	Interval (in months) between arrival in England and present treatment	Date of end of treatment	Temperature fell to normal in — days after first injection	Parasites disappeared from cutaneous blood in — days after first injection	Parasitic relapse occurred in — days after last injection	Febrile relapse (above 100° F.) occurred in — days after last injection
1158	S.	15	4	2	24.5.18	Apyrexia	1	7	...
1159	S.	21	3	1	24.5.18	Apyrexia	2	2	...
1160	S.	6	1	0	24.5.18	7	7	5	8
1161	S.	10	3	2	24.5.18	3	4	1	7

TABLE III.

Parasitic records after a single larger intravenous injection (0·2 gm.) of Disodo-luargol in simple tertian malaria.

No. of case	Day of injection 0·2 gm	1st day after	2nd day after	3rd day after	4th day after	5th day after	6th day after	7th day after	8th day after	9th day after	10th day after	11th day after	12th day after	13th day after	14th day after	15th day after	16th day after	17th day after
1162	T.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	G.	Neg.	T.
1163	T.G.	T.G.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	G.	Neg.	T.G.	T.G.	T.G.	...	...	...	...
1164	G.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	T.	G.	Neg.	T.G.	...	...
1165	T.G.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	G.
1166	T.G.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	T.
1167	T.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	G.	G.	T.G.	...	...	...
1168	T.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	T.	Neg.	Neg.	T.G.	...	...	...	...	...
1169	T.G.	T.G.	T.G.	Neg.	Neg.	Neg.	Neg.	T.G.	G.	G.	G.	T.G.	T.G.	...	...	...	...	...
1170	T.G.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	G.	Neg.	G.	...	...	...	...

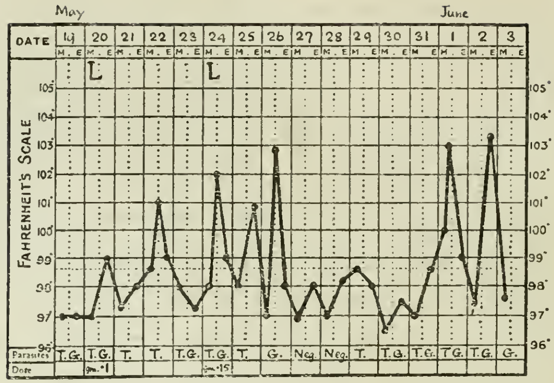
TABLE IV.

Summary of TABLE III.

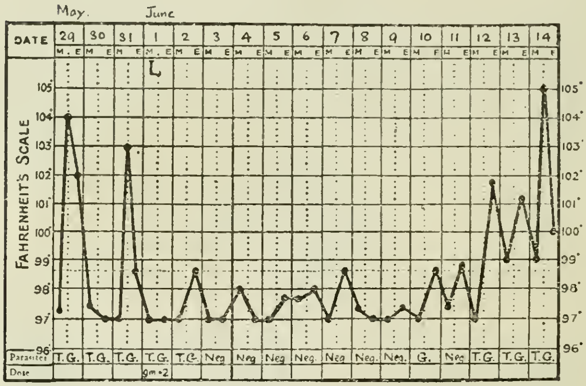
* E. = Egypt. S. = Salonika.

Number of case	*Place of infection	Interval (in months) between first admission to a hospital with malaria and present treatment	Interval (in months) between leaving infected area and present treatment	Interval (in months) between arrival in England and present treatment	Date of treatment	Temperature fell to normal in — days after injection	Parasites disappeared from cutaneous blood in — days after injection	Parasitic relapse occurred in — days after injection	Febrile relapse (above 100° F.) occurred in — days after injection	Remarks
1162	S.	24	5	4	1.6.18	Apyrexia	1	15	18	
1163	S.	20	3	3	1.6.18	Same day	2	9	11	
1164	E.	30	5	2	1.6.18	1	1	12	14	
1165	S.	9	5	4	1.6.18	Same day	1	17	12	
1166	S.	22	5	3	1.6.18	1	1	17	18	
1167	S.	16	5	3	1.6.18	Apyrexia	1	12	12	
1168	S.	22	4	2	1.6.18	Apyrexia	1	9	12	
1169	S.	7	2	1	1.6.18	2	3	7	12	
1170	S.	11	4	3	1.6.18	Same day	1	11	7	

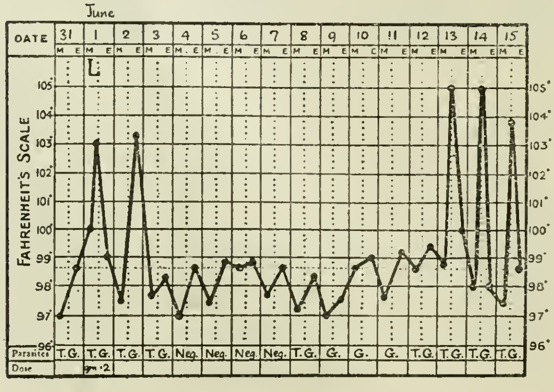
Case 1160



Case 1163



Case 1169



In the tables and charts:—

T. = simple tertian trophozoites or schizonts.
G. = simple tertian gametes.
Neg. = no parasites found.
L. = intravenous injection of luargol.

Tables I and II show that the two small injections (0·1 and 0·15 gramme respectively) had but little effect on the parasites or the temperature (Chart 1160).

Tables III and IV show that a single injection of a larger dose (0·2 gramme) caused the disappearance of the parasites from the peripheral blood in one to three days and that the temperature fell to normal within two days.*

Parasitic relapses occurred in seven to seventeen days and febrile relapses in seven to eighteen days (Charts 1163 and 1169).

Tolerance of treatment

With the doses used no ill-effects were produced.

SUMMARY

A single intravenous injection of 0·2 gramme of disodo-luargol caused a temporary disappearance of parasites from the cutaneous blood and controlled the symptoms. In all cases a relapse occurred within three weeks. Smaller doses were ineffective.

REFERENCES

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* By this is meant that the temperature fell to normal and remained so for at least two days.